

What is claimed is:

1. A carding machine comprising

- a main drum fed by a feed system with roughly attenuated and cleaned fibres;

5       - at least one system of flats for carding the said fibres, acting on the said main drum;

in which

the said feed systems comprise at least two opening cylinders or briseurs which feed the said main drum at  
10 different points of the main drum,

and in which the said system of flats comprises a plurality of sets of moving flats arranged downstream of the said briseurs.

2. Carding machine according to Claim 1, in which  
15 the said system of flats comprises a first set of moving flats and a second set of moving flats arranged downstream of the said first set of moving flats.

3. Carding machine according to Claim 2, in which the said sets of moving flats have a covering provided  
20 with a plurality of teeth having a predetermined population.

4. Carding machine according to Claim 3, in which the population of teeth on the first set of moving flats is different from the population of teeth on the second  
25 set of moving flats.

5. Carding machine according to Claim 4, in which the population of teeth on the first set of moving flats is less than the population of teeth on the second set of moving flats.

5        6. Carding machine according to claim 1, in which there is between the said sets of moving flats a refining region directed towards the said main drum and capable of working the fibre carried by the main drum.

7. Carding machine according to Claim 6, in which  
10 the said refining region comprising suction nozzles.

8. Carding machine according to Claim 7, in which the said suction nozzles have corresponding blades.

9. Carding machine according to Claim 8, in which the said refining region comprises control plates.

15        10. Carding machine according to Claim 9, in which the said refining region comprises at least one fixed clothed segment.

11. Carding machine according to Claim 2, that also comprises a precarding region directed towards the said  
20 main drum and situated upstream of the said first set of moving flats.

12. Carding machine according to Claim 11, in which the said precarding region comprises at least one fixed clothed segment, suction nozzles and blades.

25        13. Carding machine according to Claim 2, that also

comprises a post-carding region directed towards the said main drum and situated downstream of the said second set of moving flats.

14. Carding machine according to Claim 13, in which  
5 the said post-carding region comprises at least one fixed clothed segment, suction nozzles and blades.

15. Carding machine according to Claim 1, that also comprises, located upstream of the said briseurs, a storage apparatus that produces separate feed lines for  
10 the briseurs towards the main drum.

16. Carding machine according Claim 1, that also comprises a fibre cleaning and attenuating system for each briseur.

17. Carding machine according to Claim 1, in which  
15 the points of interaction between the said briseurs and the said main drum are distant from each other on the circumference of the said main drum, allowing the insertion of auxiliary mechanisms for pretreating the fibre fed to the first briseur (12a) located upstream of  
20 the second briseur.

18. Carding machine according to Claim 17, in which the said auxiliary pretreatment mechanism comprises blades and suction nozzles.

19. Carding machine according to Claim 18, in which  
25 the said auxiliary pretreatment mechanism also comprises

a fixed clothed segment.

20. Carding method comprising the following steps:

- feeding a main drum of a carding machine with a first stream of fibre in a thin layer to a first point of interaction with the said main drum;

- feeding the main drum of the carding machine, simultaneously with the said first stream, with a second stream of fibre in a thin layer to a second point of interaction with the said main drum, the said second point of interaction being downstream of the said first point of interaction;

- performing on the fibre carried by the said main drum a first parallelization by means of a first set of moving flats;

- performing on the fibre carried by the said main drum a second parallelization by means of a second set of moving flats situated downstream of the said first set of moving flats; and

- taking the thin layer of parallelized fibre from the main drum by means of a doffer system.

21. Carding method according to Claim 20, in which the said first parallelization is less thorough than the said second parallelization.

22. Carding method according to Claim 21, that also comprises the step of cleaning and straightening the said

first stream of fibre in a thin layer before the said stream reaches the said second point of interaction.

23. Carding method according to Claim 20, that also includes the step of refining the thin layer of fibre,  
5 which has already undergone the said first parallelization, before it undergoes the said second parallelization.

24. Carding method according to Claim 23, in which the said refining step comprises the step of cleaning the  
10 said fibre.

25. Carding method according to Claim 24, in which the said refining step comprises the step of straightening the said fibre.